

## IN THE CLAIMS

Amended claims follow:

1. (Currently Amended) A method for calculating CRC values in a data transmission system having a data bus wherein the number of data blocks containing valid data on said data bus is variable, said number of data blocks comprising a group, and at least one of said groups comprising a data segment, said method comprising the steps of:

a) determining a number of data blocks on a data bus;

~~b) receiving a data segment using an Internet small computer system interface (iSCSI) protocol;~~

[[c]]~~b~~) calculating a CRC value in accordance with a predetermined algorithm that accommodates ~~said data segment received using said iSCSI~~an Internet small computer system interface (iSCSI) protocol, as determined by said number of data blocks, utilizing a transport offload engine (TOE) including a physical data link that provides a physical connection to the Internet, a network stack in communication with said physical data link utilizing a TCP/IP protocol, a storage protocol services processor in communication with said network stack for exchanging data with said network stack, processing requests from a storage application, and encapsulating or decoding packets as requested by said storage application in accordance with said iSCSI protocol; [[and]]

[[d]]~~c~~) appending said CRC value to said data segment; and

d) transmitting said data segment utilizing said iSCSI protocol.

2. (Previously Presented) The method of claim 1, further comprising the steps of:

a) simultaneously calculating a CRC value for each possibility of said plurality of data blocks containing valid data; and

b) selecting a correct calculated CRC value based on said number of said data blocks.

3. (Previously Presented) The method of claim 1, wherein said calculated CRC values are variable between a value based on a data block single block up to a value based on a group of said data blocks.
4. (Previously Presented) The method of claim 1, wherein said data segment includes at least one data block.
5. (Currently Amended) A system for generating CRC values in a Data Transmission System having a data bus adapted for handling a plurality of data blocks in parallel, said plurality of data blocks comprising a data segment, said system comprising:
  - a) a memory for storing data blocks, said memory adapted to output a plurality of data blocks simultaneously;
  - b) a data bus, coupled to said memory, said data bus providing a data path wide enough to accommodate said plurality of data blocks;
  - c) a plurality of CRC cores coupled to said data bus; and
  - d) a first multiplexer coupled to said CRC cores for selecting the output of one of said CRC cores based on a number of data blocks output on said data bus;wherein a data segment is ~~[[received]]~~transmitted using an Internet small computer system interface (iSCSI) protocol;  
wherein CRC values are calculated in accordance with a predetermined algorithm that accommodates said data segment ~~[[received]]~~transmitted using said iSCSI protocol, utilizing a transport offload engine (TOE) including a physical data link that provides a physical connection to the Internet, a network stack in communication with said physical data link utilizing a TCP/IP protocol, a storage protocol services processor in communication with said network stack for exchanging data with said network stack, processing requests from a storage application, and encapsulating or decoding packets as requested by said storage application in accordance with said iSCSI protocol.
6. (Previously Presented) The system of claim 5, wherein said plurality of CRC cores includes a CRC core for calculating at least one CRC value for every combination of data blocks on said data bus.

7. (Previously Presented) The system of claim 5, further including a second multiplexer coupled to the output of said first multiplexer for initializing said CRC cores with a seed value for use in calculating said at least one CRC value.
8. (Previously Presented) The system of claim 7, where said at least one CRC value is based on said seed value and said data in said data blocks.
9. (Previously Presented) The system of claim 5, further including means for appending said at least one CRC value to said data segment.
10. (Previously Presented) The system of claim 5, wherein said at least one CRC value has the same granularity as said data blocks.
11. (Previously Presented) The system of claim 5, wherein said memory includes a non-volatile data storage device.
12. (Currently Amended) A circuit for calculating CRC values comprising:
  - a) a memory for storing data blocks, said memory including a plurality of outputs for simultaneously outputting data segments having a plurality of data blocks;
  - b) a data bus, coupled to said memory, said data bus having a data path for each of said data blocks;
  - c) a plurality of registers coupled to said data bus, said registers for temporarily storing data blocks within a data segment output from said memory, wherein said registers are adapted for storing any combination of data blocks within said data segment;
  - d) a plurality of CRC cores coupled to each of said respective registers, said CRC cores for calculating CRC values for said data blocks stored in each of said registers; and
  - e) a multiplexer for selecting a CRC value calculated by one of said CRC cores, based on which of said plurality of registers contain valid data;wherein said data segment is [[received]]transmitted using an Internet small computer system interface (iSCSI) protocol;

wherein a plurality of CRC values are calculated in accordance with a predetermined algorithm that accommodates said data segment ~~[[received]]~~transmitted using said iSCSI protocol, utilizing a transport offload engine (TOE) including a physical data link that provides a physical connection to the Internet, a network stack in communication with said physical data link utilizing a TCP/IP protocol, a storage protocol services processor in communication with said network stack for exchanging data with said network stack, processing requests from a storage application, and encapsulating or decoding packets as requested by said storage application in accordance with said iSCSI protocol.

13. (Currently Amended) A method for calculating cyclical redundancy check (CRC) values, comprising:

~~receiving data using an Internet small computer system interface (iSCSI) protocol;~~  
calculating a CRC value in accordance with a predetermined algorithm that accommodates ~~said data received using said iSCSI;~~an Internet small computer system interface (iSCSI) protocol, utilizing a transport offload engine (TOE) including a physical data link that provides a physical connection to the Internet, a network stack in communication with said physical data link utilizing a TCP/IP protocol, a storage protocol services processor in communication with said network stack for exchanging data with said network stack, processing requests from a storage application, and encapsulating or decoding packets as requested by said storage application in accordance with said iSCSI protocol; ~~[[and]]~~

appending said CRC value to said data; and  
transmitting said data utilizing said iSCSI protocol.